

REMARKS

Applicant requests favorable consideration of this response and allowance of the subject application based on the following remarks. **Claims 1-20** remain pending in the present application and are for consideration upon entry of the present Amendment. Applicant amends Claims 9-12, 19, and 20 to clarify claimed subject matter and/or correct informalities. The original specification and drawings support these claim amendments at least at page 12 and in Figures 1, 20, and 25. Therefore, these revisions introduce no new matter and does not change the scope of the claims.

Applicant's amendments and remarks after Final are appropriate under 37 C.F.R. §1.116 because they address the Office's remarks in the Final Action, and thus could not have been presented earlier. In addition, the amendments and remarks should be entered to place the application in better form for appeal.

Claim Rejections 35 U.S.C. §101

Claims 9, 10, 11, 12, 19, and 20 stand rejected under 35 U.S.C. §101 as being allegedly directed to non-statutory subject matter.

Without conceding the propriety of the stated rejections, and only to advance the prosecution of this application, Applicant amends **Claims 9-12, 19, and 20** to clarify further features of the subject matter. For example, Claim 9 recites in part, "a computer readable storage media having processor-executable instructions". Support may be found at least at page 12 and in Figures 1, 20, and 25. This sets forth statutory subject matter as the claim is structurally and functionally interrelated to the medium.

Claims 10-12, 19, and 20 as amended, recite features similar to those in Claim 9 and hence benefit from the same arguments. Applicant respectfully submits that the claims now comply with 35 U.S.C. §101 and respectfully requests that the §101 rejections be withdrawn.

Claim Rejections 35 U.S.C. §102

Claims 1-8, 12, and 14-15 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,816,603 B2 to David et al. (hereinafter "David"). Applicant respectfully traverses this rejection. Anticipation under §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference (MPEP §2131).

Independent Claim 1 recites:

A method for determining height parameters that describe a dynamically varying height of an ambulatory subject based on video analysis of the subject, comprising:

acquiring a sequence of images that collectively captures the gait of the subject;

measuring a dynamically varying height function of the subject based on an analysis of the varying height of the subject in the sequence of images; and

fitting the dynamically varying height function of the subject to a model that describes varying height,

wherein the height parameters correspond to parameters used in the model.

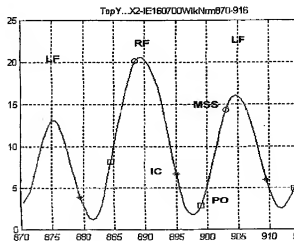
Applicant respectfully submits that there is no such method for determining height parameters is disclosed by David.

David Fails to Disclose A Dynamically Varying Height Function

David is tracking changes in gait to indicate difficulty with neurologic and musculoskeletal functions (col. 3, lines 27-30). Motion portraits are used to determine the existence of trends demonstrating improvement, deterioration, or no change in a subject's condition (col. 14, line 67 to col. 15, line 3). David compares silhouette images or outline images of the subject (col. 5, lines 60-61) to previous or good health images of the subject to draw diagnostic conclusions (col. 15, lines 6-11).

First, the Office implies the recited "measuring a dynamically varying height function of the subject based on an analysis of the varying height" is disclosed by David in Figure 11. For convenience, the cited figure is reproduced below.

David, Figure 11:



Next, Applicant directs the Office to the description for Figure 11, reproduced below.

David, col. 14, lines 36 to 47:

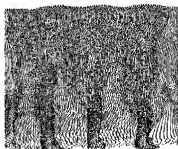
This graph shows the sagittal projection of the head summit motion vertical component. The X axis of the graph is the time reference in frames

(i.e. 1/30 second per frame). The Y axis is a distance in pixels. Vertical motion is projected with a resolution of 1 pixel or 0.5 cm. The motion in the frontal plane is projected with a resolution of 1.5 cm. Markers in the graph show the various timing events on the curves. An asterisk marks the initial contact (IC), a square marks the initial push off (PO) and a circle marks the middle single support (MSS). RF is used to indicate the right step and LF is used to indicate the left step.

This evidence fails to disclose “measuring a dynamically varying height function of the subject based on an analysis of the varying height”, as recited in Applicant’s Claim 1. Rather, the evidence shows Figure 11 is a graph illustrating the X axis of time reference, the Y axis of distance in pixels, initial contact (IC), initial push off (PO), middle single support (MSS), the right step (RF), and the left step (LF) (col. 14, lines 36 to 47), which is not of varying height. Thus, David fails to disclose the recited features.

Second, the Office implies the recited “fitting the dynamically varying height function of the subject to a model that describes varying height” is disclosed by David in Figure 9a. For convenience, Figure 9a is reproduced below.

David, Figure 9a:



This evidence fails to disclose “fitting the dynamically varying height function of the subject to a model that describes varying height”, as recited in Applicant’s Claim 1. Rather, Figure 9a merely shows a motion “**finger print**” of a normal walk to distinguish from the motion finger print of an abnormal walk (col. 13, lines 64-66). David describes the resulting

picture provides a unique characteristic **template** of the patient that may be analyzed and compared to **previously stored templates** (col. 6, lines 35-37). Therefore, David does not disclose the recited features.

Furthermore, Applicant requested on December 1, 2006 for the Office to provide a citation in David showing “wherein the height parameters correspond to parameters used in the model”, as recited in Applicant’s Claim 1. The Office fails to provide a citation.

Applicant asserts the evidence in David fails to disclose “measuring a dynamically varying height function of the subject based on an analysis of the varying height; fitting the dynamically varying height function of the subject to a model that describes varying height, and wherein the height parameters correspond to parameters used in the model”, as recited in Applicant’s Claim 1. This evidence is insufficient to support a prima facie anticipation rejection of the claimed subject matter, as each and every feature is not disclosed by David. Consequently, Applicant respectfully requests that the §102 rejection be withdrawn.

Independent Claim 5 is directed to an apparatus, and is allowable for reasons similar to those discussed above with respect to Claim 1. Furthermore, David fails to disclose “an apparatus for determining height parameters that describe a dynamically varying height of an ambulatory subject”, as recited in Applicant’s Claim 5.

Dependent Claims 2-4, 6-8, 12, 14, and 15 depend directly or indirectly from one of independent Claims 1 and 5, respectively, and thus are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in Claims 1 and 5, are not disclosed by David. Consequently, Applicant respectfully requests that the §102 rejection be withdrawn.

Claim Rejections under 35 U.S.C. § 103

Claims 9-11, 13, and 16-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over David in view of U.S. Patent Application Publication No. 2002/0028003 to Krebs et al. (hereinafter “Krebs”). Applicant respectfully traverses the rejection.

Independent Claim 9 recites:

A computer readable storage media having processor-executable instructions, that when executed, direct a computing system to:

generate a sequence of images that collectively captures the gait of a subject;

measure a dynamically varying height function of the subject based on an analysis of the varying height of the subject in the sequence of images;

analyze the dynamically varying height function of the subject to a model that describes varying height, wherein one or more height parameters correspond to parameters used in the model;

extract the one or more height parameters associated with the gait of the subject;

compare the extracted one or more height parameters associated with the gait of the subject to identified gait information corresponding to individuals; and

identify the subject based on the gait of the subject.

Applicant respectfully submits that no such computer readable storage media is taught or suggested by David or Krebs.

David Fails to Teach or Suggest A Dynamically Varying Height Function

As explained above with respect to the rejection under 35 U.S.C. §102(b), Applicant submits that David fails to disclose “measure a dynamically varying height function of the subject, analyze the dynamically varying height function of the subject to a model that describes varying height, wherein one or more height parameters correspond to parameters used in the model. Thus, David fails to disclose, teach or suggest these recited features.

David is Non-Analogous Art

Applicant also traverses the rejection because David is non-analogous art. For the purposes of evaluating obviousness of claimed subject matter, the particular references relied upon must constitute “analogous art” (MPEP §2141.01(a)). The art must be from the same field of endeavor, or be reasonably pertinent to the particular problem with which the inventor is involved.

Regarding the first prong of the above analysis, David is not from the same field of endeavor as Applicant’s subject matter. David is directed towards monitoring the medical condition of a subject/patient neuromuscular motor activity (col. 1, lines 23-25), geriatric care, and may be utilized in a hospital or clinic as they constitute diagnostic techniques (col. 1, lines 34-37). Physiological analysis utilizing a single video camera and without markers is included in David (col. 1, lines 40-44). Applicant clarifies the definition of “physiological” as normal functioning of an organism (see Random House Unabridged Dictionary, © Random House, Inc. (2006) and Merriam-Webster’s Medical Dictionary, © (2002)). In contrast, Applicant’s subject matter pertains to identifying an ambulatory subject based on video analysis of the subject’s gait. Thus, David is clearly not from the same field of endeavor as Applicant’s subject matter.

Turning now to the second prong of the above analysis, David is not reasonably pertinent to the particular problem with which Applicant is involved. As noted above, David is directed to monitoring the medical condition or diagnostic techniques of a subject/patient. In contrast, Applicant’s subject matter pertains to determining height parameters, capturing the gait of the subject, and identifying the subject based on the gait of

the subject. Even assuming that David's monitoring techniques determines the height parameters and captures the gait of the subject, David does not address the problem of identifying the subject based on the gait. As such, David is not reasonably pertinent to the particular problem addressed by Applicant.

Because it fails both prongs of the above analysis, David is non-analogous art, and any §103 rejection based on David is improper. On at least this basis, the Applicant requests reconsideration and withdrawal of the stated § 103 rejections.

The Cited Art Provides No Suggestion or Motivation to Modify or Combine the References

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings (MPEP §2142). The Office stated the motivation to combine David's method of monitoring subjects with Krebs's method of using anatomy and gait parameters to distinguish individuals in order to better identify the subjects being monitored (Office Action, page 9). However, there is nothing in either of the references that would suggest this motivation. In addition, David already uses anatomy and gait parameters to monitor individuals. Thus, there is no need to combine the two references. The asserted motivation relies on hindsight without evidence of teaching or suggestion to propose the suggested combination. Thus, this rejection is improper for this additional reason.

Neither David nor Krebs teach or suggest at least the foregoing features, whether considered alone or in combination. Additionally, David is non-analogous art, relative to the claimed subject matter. Finally, David and Krebs are not properly combined under

§103. Accordingly, David and Krebs do not support a §103 rejection of Claims 9-11, 13, and 16-20. Therefore, Applicant requests reconsideration and withdrawal of the §103 rejections.

Conclusion

Claims 1-20 are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of the subject application. If any issue remains unresolved that would prevent allowance of this case, the Office is requested to contact the undersigned attorney to resolve the issue.

Respectfully Submitted,

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